Responsiveness Summary

Next Generation Processing, LLC - Haven Gas Plant, Haven, Kansas

Prevention of Significant Deterioration Permit

Kansas
Department of Health
and Environment

Kansas Department of Health and Environment

Bureau of Air

Air Permitting Section

November 16, 2012

I. KDHE Decision

The Kansas Department of Health and Environment (KDHE) Bureau of Air (BOA) has made the decision to issue an Air Quality Construction Permit to Next Generation Processing, LLC (NGP) for construction of a new liquefiable hydrocarbons extraction facility located in Reno County, near Haven Kansas.

The construction permit issued for the project identifies the applicable rules governing emissions from the facility, and establish enforceable limitations on its emissions. The permit also establishes appropriate compliance procedures, including requirements for emissions testing, continuous emission monitoring, recordkeeping and reporting. NGP will be required to carry out these procedures on an ongoing basis to demonstrate that the facility is operating within the limitations established by the permits and that emissions are being properly controlled.

The permit related documents can be found at the KDHE BOA website address:

http://www.kdheks.gov/bar/nextgen/nextgen.html

II. Project Description

On April 19, 2012, the KDHE BOA received an application from NGP requesting a permit for a new liquefiable hydrocarbons extraction facility. NGP's application included equipment to process 1.40 billion standard cubic feet per day (Bscfd) of natural gas.

III. KDHE Permit Considerations

The project proposed by NGP is considered a construction of a major stationary source because one or more of the Prevention of Significant Deterioration (PSD) regulated air pollutants from the proposed activity exceeds the significance level(s). Therefore, KDHE permit considerations must follow the PSD Air Quality Construction Permit requirements.

PSD does not prevent sources from increasing emissions. PSD is designed to:

- protect public health;
- preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monument, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value;
- insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources; and

- assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decision making process.

PSD applies to new major sources or major modifications at existing sources for pollutants where the area the source is located is in attainment or unclassifiable with the National Ambient Air Quality Standards (NAAQS). It requires the following:

- installation of the "Best Available Control Technology" (BACT);
- an air quality analysis;
- an additional impacts analysis; and
- public involvement.

A. Best Available Control Technology (BACT)

BACT is an emissions limitation which is based on the maximum degree of control that can be achieved. It is a case-by-case decision that considers energy, environmental, and economic impacts. BACT can be add-on control equipment or modification of the production processes or methods. This includes fuel cleaning or treatment and innovative fuel combustion techniques. BACT may be a design, equipment, work practice or operation standard if imposition of an emissions standard is infeasible.

BACT applies to each new or modified affected emissions unit and pollutant emitting activity at the source for each pollutant having a potential to emit, or an increase in potential to emit, above the PSD significance level(s). The proposed NGP project emissions for CO_2e were an increase and are greater than 100,000 tons per year and greater than 250 tons on a mass basis. Therefore the facility is a new major stationary source for at least one regulated pollutant (CO_2e) and subject to the requirements of 40 CFR 52.21 as adopted under K.A.R. 28-19-350. The potential emissions of CO, NO_x, and $PM_{2.5}$ were determined to be above the PSD significance thresholds. Pursuant to 40 CFR 52.21, since NO_x emissions for the proposed project are significant, emissions for Ozone (O_3) are also considered significant. NO_x is considered a surrogate for O_3, therefore NO_x emission rates and controls will be deemed emission rates and controls for O_3.

For the NGP facility, BACT is listed in the PSD Permit Summary, Section V.

B. Ambient Air Quality Analysis

The proposed facility is a major source as defined by K.A.R. 28-19-350, Prevention of Significant Deterioration and the facility must demonstrate that allowable emission increases from the proposed facility would not cause or contribute to air pollution in violation of:

1. any NAAQS in any air quality control region; or

2. any applicable maximum allowable increase over the baseline concentration in any area (increment).

This demonstration was made and it is presented in the PSD Permit Summary, Section VI.A.

C. Additional Impact Analysis

In accordance with 40 CFR 52.21(o)(1), the owner shall provide an analysis of the impairment to visibility, soils and vegetation that would occur as a result of this project and to what extent the emissions from the proposed modification impacts the general commercial, residential, industrial and other growth. This analysis is presented in the PSD Permit Summary, Section VI. B through F.

D. Public Involvement

Following its initial review of NGP's application, the KDHE BOA made a preliminary determination that the application met the standards for issuance of a construction permit and prepared a draft permit for public review and comment.

The draft permits were available for public review from October 4, 2012 through November 5, 2012. One request was made for a public hearing, however, there was no pertinent comment regarding the permit, therefore, no public hearing was conducted.

KDHE received written comments from the U.S. Environmental Protection Agency (EPA) Region 7 in a letter dated November 2, 2012. Section IV of this document includes the KDHE responses to EPA.

IV. Response to EPA Region 7

A. The Permit Summary correctly states that since nitrogen oxides (NO_x) emissions for the proposed project are significant that emissions for ozone are also considered significant. We were not able to find any information in the permit record on KDHE assessment whether or not the project would result in violations of the ozone National Ambient Air Quality Standards (NAAQS). Also, there is no discussion of ambient ozone air quality in the area as required by 40 C.F.R. 52.21(m) which the Kansas Department of Health and Environment (KDHE) has adopted by reference. Since the projects NO_x emission increase is greater than 100 tons per year it does not meet the exemption in 40 C.F.R. 52.21(i)(5).

KDHE Response: NO_x emissions from the proposed project are expected to be 106.45 tons per year or less. NO_x emissions from the proposed project were modeled and all predicted impacts were below the significant impact level, with a maximum predicted impact of 6.76 $\mu g/m^3$. KDHE considers this to be a demonstration that this project will not cause or contribute to a violation of the NO_2 NAAQS or the ozone NAAQS. Ozone monitors in Wichita have shown exceedances of the design value in 2012. However, exceedances only occurred when winds were from the south or from the east. This plant will be located west of Wichita, and is not expected to contribute to any ozone exceedances, because of its location and because of the relatively low expected emissions. Reno County, where the plant will be located, has less industrial activity, less traffic, and is expected to be impacted less by pollution transported from other locations. Reno County is not expected to be considered part of any future non-attainment area associated with recent ozone exceedances in Sedgwick County. Emission levels discussed are not expected to contribute to changes in Reno County NAAQS attainment.

With regard to the exemption in 52.21(i)(5), KDHE has the discretion to allow the use of existing data if it is representative, of sufficient quality, and current, consistent with the guidance in the EPA New Source Review (NSR) Workshop Manual (page C.18). The Cedar Bluff monitor meets these criteria for this facility. This determination includes consideration of the regional emission profiles influencing the monitor and the characteristics of the airshed surrounding the monitor (i.e., rural vs. urban, etc.). The monitor selected for use in the NGP ambient impact analysis is located at a site that is characteristic of air quality across a broad region, including the area where NGP is expected to be located. The Cedar Bluff site is adequate to be used in developing a reasonable, worst case estimate of the air quality impacts. The Cedar Bluff site, as is expected for Reno County, meets the NAAQS for ozone.

B. The permits sets Best Available Control Technology (BACT) limits for greenhouse gases in permit condition V.L. It is not clear what the averaging period for these limits is. The permit requires an initial performance test for the carbon dioxide (CO_2) for the combustion turbines, the reciprocating engines and the amine still vent in permit condition V.L.2.a. This makes us believe the averaging period for the CO_2 limit to be the length of the stack test. On the other hand, permit conditions V.L.2.e and f. require 12-month rolling period calculations for the greenhouse gas limits for the natural gas-fired turbines and reciprocating engines in V.L.1.c. and the amine still vent's CO_2e limit. We suggest the permit be clarified by including the averaging period for the limits.

KDHE Response: KDHE has modified Table 3 of permit condition V.L.1.c. to clarify the greenhouse gas (GHG) BACT emission rates in lb/MMscf, and to add a column for the GHG BACT emission limits in tons per any consecutive 12 month period. KDHE has modified permit condition V.L.1.d. to include the CO_2, CH_4 and CO_2e BACT emission limits in tons per any consecutive 12 month period. KDHEs intent with Performance Testing for CO_2 was to validate the Manufacturer's emission rates which were the basis for NGP's Potential to Emit. To ensure the BACT emission rates and BACT emission limits in Table 3 of permit condition V.L.1.c. are valid and are met KDHE has incorporated additional monitoring requirements under permit conditions V.L.2.a. Permit conditions V.L.2.a.i. through iii will require NGP to calculate the emission rate determined during the initial performance test to calculate the tons per year emission total to compare to the CO_2 BACT limits in tons per any consecutive 12 month period. Should the calculate CO_2 emission total exceed those specified in Table 3 of permit condition V.L.1.c., NGP will be required to submit a compliance strategy reporting how they will meet the BACT emission limits at the time the initial performance test results are submitted.

Additionally, permit conditions V.L.2.e and f. were updated to reflect the averaging period required to be tracked by tons per any consecutive 12 month period basis.

C. The permit requires greenhouse gas emission calculation by permit conditions V.L.2.e. and f. We suggest the permit specify the calculation procedures.

KDHE Response: KDHE has interpreted comment Number 3 as a suggestion. KDHE has included explicit monitoring and recordkeeping requirements for GHG BACT emissions in the permit that are sufficient for the facility to develop its recordkeeping to demonstrate compliance

with the GHG BACT limits without including an equation in the permit. Additionally, a summary of the parameters monitored and the records maintained is required to be submitted by the facility on a semi-annual basis and KDHE should be able to readily determined, based on the summary, if the facility has difficulty complying with the requirements of the GHG BACT limits, monitoring and recordkeeping portion of the permit.

D. The permit has two typographical errors. Permit condition V.L.2.e refers to V.K.1.c. when it should refer to V.L.1.c. Permit condition III.C refers to the reciprocating engines as turbines.

KDHE Response: KDHE concurs that these were typographical errors and has made the corrections as indicated above.